Amendments to the Claims

Please amend Claims 1, 3, 4, 5, 12, 14, 15, and 27. Please add new Claims 28-38. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently amended) A method for the removal of airborne molecular contaminants (AMC) from a substrate comprising:

providing a purified purge gas, wherein the purified purge gas comprises oxygen, the purified purge gas having a ~~an AMC~~ contaminant concentration of less than about 1 part per billion (ppb) on a volume basis of at least one of the contaminants selected from the group consisting of sulfur oxides, nitrogen oxides, Si-containing organics, organophosphates, amines, volatile bases, volatile acids, refractory compounds, volatile metal compounds, and non-methane hydrocarbons;

contacting at least a portion of the substrate with the purified purge gas at ~~ambient~~ a temperature of about 20°C to about 100°C ~~or up to 80°C~~, the substrate contaminated with AMC before the substrate is contacted with purified purge gas;

producing a contaminated purge gas by transferring AMC from the substrate into the purified purge gas, the contaminated purge gas including AMC from the substrate; and

removing the contaminated purge gas from the substrate;

thereby removing AMC from the substrate.

2. (Previously presented) The method as in claim 1, wherein the steps are repeated until the contaminated purge gas has an AMC concentration below about 1 ppb AMC on a volume basis.

3. (Currently amended) The method as in claim 1, wherein the ~~AMC~~ concentration of at least one of the contaminants in the purified purge gas is less than about 100 parts per trillion (ppt) ~~AMC~~ on a volume basis.

4. (Currently amended) The method as in claim 1, wherein the ~~AMC~~ concentration of at least one of the contaminants in the purified purge gas is less than about 10 ppt ~~AMC~~ on a volume basis.

5. (Currently amended) The method as in claim 1, wherein the ~~AMC~~ concentration of at least one of the contaminants in the purified purge gas is less than about 1 ppt ~~AMC~~ on a volume basis.

6. (Cancelled)

7. (Cancelled)

8. (Previously presented) The method as in claim 1, wherein the substrate is enclosed within a chamber.

9. (Previously presented) The method in claim 8, wherein the substrate includes at least one silicon substrate.

10. (Previously presented) The method as in claim 1 further comprising purging of the substrate with an inert gas after removing said contaminated purge gas from the substrate.

11. (Previously presented) The method as in claim 10, wherein said inert gas is selected from the group consisting of nitrogen, argon, noble gases and methane.

12. (Currently amended) A method for the removal of airborne molecular contaminants (AMC) from a substrate comprising:

providing a purified purge gas, wherein the purified purge gas comprises oxygen at a concentration between about 1 % and 25 % on a volume basis and the purified purge gas has a ~~an AMC~~ contaminant concentration of less than about 1 part per billion (ppb) on a volume basis of at least one of the contaminants selected from the group consisting of sulfur oxides, nitrogen oxides, Si-containing organics, organophosphates, amines, volatile bases, volatile acids, refractory compounds, volatile metal compounds, and non-methane hydrocarbons;

contacting at least a portion of the substrate with the purified purge gas at ~~ambient~~ a temperature of about 20°C to about 100°C ~~or up to 80°C~~;

producing a contaminated purge gas by transferring AMC from the substrate into the purified purge gas, the contaminated purge gas including AMC from the substrate; and

removing the contaminated purge gas from the substrate;

thereby removing AMC from the substrate.

13. (Previously presented) The method as in claim 12 comprising continuing the steps until the contaminated purge gas has an AMC concentration below 100 parts per trillion (ppt) on a volume basis.

14. (Currently amended) The method as in claim 12, wherein the ~~AMC~~ concentration of at least one of the contaminants in the purified purge gas is less than 10 ppt ~~AMC~~ on a volume basis.

15. (Currently amended) The method as in claim 12, wherein the ~~AMC~~ concentration of at least one of the contaminants in the purified purge gas is less than 1 ppt ~~AMC~~ on a volume basis.

16. (Cancelled)

17. (Cancelled)

18. (Previously presented) The method as in claim 12, wherein the substrate is enclosed within a chamber.

19. (Previously presented) The method as in claim 18, wherein the substrate includes at least one silicon substrate.

20. (Previously presented) The method as in claim 1, wherein the purified purge gas is inert with respect to the AMC.

21. (Previously presented) The method as in claim 12, wherein the purified purge gas comprises oxygen at a concentration between about 17% and about 21% on a volume basis.

22. (Previously presented) The method as in claim 12, wherein the purified purge gas comprises extra clean dry air.

23. (Previously presented) The method as in claim 12, wherein the substrate is contaminated with AMC before the substrate is contacted with purified purge gas.

24. (Previously presented) The method as in claim 12, wherein the purified purge gas is inert with respect to the AMC.

25. (Previously presented) The method as in claim 8, wherein the substrate includes a wafer.

26. (Previously presented) The method as in claim 18, wherein the substrate includes a wafer.

27. (Currently amended) A method for the removal of airborne molecular contaminants (AMC) from a wafer comprising:

providing a purified purge gas, wherein the purified purge gas comprises oxygen, the purified purge gas having a ~~an AMC~~ contaminant concentration of less than about 1 part per billion (ppb) on a volume basis of at least one of the contaminants selected from the group consisting of sulfur oxides, nitrogen oxides, Si-containing organics, organophosphates, amines, volatile bases, volatile acids, refractory compounds, volatile metal compounds, and non-methane hydrocarbons;

contacting at least a portion of the wafer with the purified purge gas under temperature ~~conditions~~ that ~~do~~ does not change the AMC, the wafer contaminated with AMC before the wafer is contacted with purified purge gas;

producing a contaminated purge gas by transferring AMC from the wafer into the purified purge gas, the contaminated purge gas including AMC from the wafer; and

removing the contaminated purge gas from the wafer;

thereby removing AMC from the wafer.

28. (New) The method as in Claim 1, wherein the portion of the substrate and the purified purge gas are contacted at a temperature of about 20°C to about 50°C.

29. (New) The method as in Claim 1, wherein the portion of the substrate and the purified purge gas are contacted at a temperature of about 80°C to about 100°C.

30. (New) The method as in Claim 12, wherein the portion of the substrate and the purified purge gas are contacted at a temperature of about 20°C to about 50°C.

31. (New) The method as in Claim 12, wherein the portion of the substrate and the purified purge gas are contacted at a temperature of about 80°C to about 100°C.

32. (New) A method for the removal of airborne molecular contaminants (AMC) from a AMC contaminated substrate, comprising:

contacting at least a portion of the AMC contaminated substrate with a purified purge gas consisting essentially of extra clean dry air, at a temperature of about 20°C to about 100°C;

producing a contaminated purge gas by transferring AMC from the substrate into the purified purge gas, the contaminated purge gas including AMC from the substrate; and removing the contaminated purge gas from the substrate;

thereby removing AMC from the substrate.

33. (New) The method as in Claim 32, wherein the substrate is a wafer.

34. (New) The method as in Claim 32, wherein the substrate is a wafer chamber.

35. (New) The method as in Claim 32, wherein the portion of the substrate and the purified purge gas are contacted at a temperature of about 20°C to about 50°C.

36. (New) A method for the removal of airborne molecular contaminants (AMC) from a wafer processing or storage chamber comprising:

providing a purified purge gas, wherein the purified purge gas comprises oxygen, the purified purge gas having a contaminant concentration of less than about 1 part per billion (ppb) on a volume basis of at least one of the contaminants selected from the group consisting of sulfur oxides, nitrogen oxides, Si-containing organics, organophosphates, amines, volatile bases, volatile acids, refractory compounds, volatile metal compounds, and non-methane hydrocarbons;

contacting at least a portion of the wafer processing or storage chamber with the purified purge gas under temperature that does not change the AMC, the wafer chamber contaminated with AMC before the wafer chamber is contacted with purified purge gas;

producing a contaminated purge gas by transferring AMC from the wafer chamber into the purified purge gas, the contaminated purge gas including AMC from the wafer chamber; and

removing the contaminated purge gas from the wafer chamber;

thereby removing AMC from the wafer chamber.

37. (New) The method as in Claim 32, wherein contacting at least a portion of the wafer with the purified purge gas includes contacting the portion of the wafer with the purified purge gas at a temperature of about 20°C to about 100°C.

38. (New) The method as in Claim 36, wherein contacting at least a portion of the wafer processing or storage chamber with the purified purge gas includes contacting the portion of the wafer processing or storage chamber with the purified purge gas at a temperature of about 20°C to about 100°C.